REMARKS

Claims 1, 21, 45, 51 and 64-70 have been amended. Claim 19 is cancelled. No new matter has been added.

Allowable Subject Matter

In the Action, claims 63-70 are allowed, and claims 19, 32-42, 49-50 and 58-59 are allowable if rewritten in independent form to include the limitations of the base claim and any intervening claims. In response, Applicants formally recognize the allowance of claims 63-70 and the allowable subject matter of claims 19, 32-42, 49-50 and 58-59.

Claim Corrections

Claims 64-70 have been amended to correct preamble reference language. Applicants respectfully request reconsideration of these claims.

Drawing Corrections

Formal drawings are submitted herewith.

Claim Rejections Under 35 U.S.C. §102

Claims 1-18, 20-31, 43-48, 51-57 and 60-62 stand rejected under 35 U.S.C. §102(e) as unpatentable over Higgins (US 6,993,730). Applicants respectfully traverse.

Independent claim 1 has been amended to include the allowable subject matter of claim 19. Thus, amended independent claim 1 including any claims directly or indirectly dependent thereon are in condition for allowance and such allowance is respectfully requested.

Claim 21 has been amended in independent form to include the subject matter of base claim 1 and recites the following limitations:

solving at least a first equivalence checking problem;

storing at least a first solution to at least the first equivalence checking problem; and

reusing at least part of the first solution to the first equivalence checking problem for a second equivalence checking problem,

wherein the first equivalence checking problem includes comparing logic cones.

Claim 45 has been amended in independent form to include the subject matter of base claim 1 and recites the following limitations:

solving at least a first equivalence checking problem;

storing at least a first solution to at least the first equivalence checking problem; and

reusing at least part of the first solution to the first equivalence checking problem for a second equivalence checking problem,

wherein the first equivalence checking problem includes determining one or more sensitizing simulation vectors.

Claim 51 has been amended in independent form to include the subject matter of base claim 1 and recites the following limitations:

solving at least a first equivalence checking problem;

storing at least a first solution to at least the first equivalence checking problem; and

reusing at least part of the first solution to the first equivalence checking problem for a second equivalence checking problem,

wherein the first equivalence checking problem includes mapping state elements.

Applicants respectfully submit that Higgins does not disclose these limitations of claims 21, 45 and 51.

Applicants note that the Action fails to directly address the limitations of claims 21, 45 and 51. Therefore, Applicants assert that claims 21, 45 and 51, as amended, are patentable over Higgins and respectfully request reconsideration of these claims.

In general, Higgins is directed to determining whether two circuit models have equivalent functionality. In particular, Higgins provides an equivalence checking tool to compare an RTL circuit model against a gate-level model. Higgins discloses a method to learn knowledge from a comparison of one portion, to cache this knowledge in memory, and to reuse this information in a later run. *See Higgins, abstract, col. 4, lines 40-45 and col. 6, lines 17-24.* However, Higgins fails to disclose solving an equivalence checking problem including comparing logic cones, determining one or more sensitizing simulation vectors, or mapping state elements, as required by the present claims.

In contrast to Higgins, amended independent claims 21, 45 and 51 respectively require the first equivalence checking problem to include comparing logic cones (claim 21), the first

equivalence checking problem to include determining one or more sensitizing simulation vectors (claim 45), and the first equivalence checking problem to include mapping state elements (claim 51). Support for these features of claims 21, 45 and 51 can be found throughout the Applicants' specification, for example, pages 3-5, paragraphs 16-26.

Higgins does not disclose each and every feature of the present claims.

For at least these reasons, it is respectfully submitted that independent claims 21, 45 and 51, as amended, including any claims directly or indirectly dependent thereon are in condition for allowance and such allowance is respectfully requested.
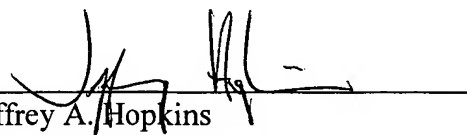
Conclusion

Based on the foregoing, all claims are believed allowable, and an allowance of the claims is respectfully requested. If the Examiner has any questions or comments, the Examiner is respectfully requested to contact the undersigned at the number listed below.

The Commissioner is authorized to charge any fees due in connection with the filing of this document to Bingham McCutchen's Deposit Account No. **50-2518,** referencing billing number **7038422001**. The Commissioner is authorized to credit any overpayment or to charge. any underpayment to Bingham McCutchen's Deposit Account No. **50-2518,** referencing billing number **7038422001**.

Respectfully submitted,

Bingham McCutchen LLP

Date: June 13, 2006

By: _____

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